Acid compared to Glutamine-containing medium. FIGS. **11** A and B indicate that, in DMEM/F12 medium, cell viability was not consistently improved in Glutamine-free medium supplemented with 10 mM Asparagine, 10 mM Aspartic Acid and 1 mM Glutamic Acid. Of note, viability was higher for Apomab antibody (FIG. **11** A), but lower for anti-VEGF antibody (FIG. **11** B) compared to Glutamine containing medium.

As shown in FIGS. **12** and **13**, use of a glutamine-free production medium reduced NH_4^+ accumulation significantly compared to glutamine-containing medium. FIGS. **12** A-D illustrate that ammonia levels were usually lower in Glutamine-free cultures supplemented with 10 mM Asparagine, 10 mM Aspartic Acid and 1 mM Glutamic Acid compared to Glutamine-containing cultures. FIGS. **13** A and B illustrate that ammonia levels were significantly reduced in Glutamine-free DMEM/F12 medium supplemented with 10 mM Asparagine, 10 mM Aspartic Acid and 1 mM Glutamic Acid compared to Glutamine-containing DMEM/F12 medium.

The invention illustratively described herein can suitably be practiced in the absence of any element or elements, limitation or limitations that is not specifically disclosed herein. Thus, for example, the terms "comprising," "including," "containing," etc. shall be read expansively and without limitation. Additionally, the terms and expressions employed herein have been used as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding any equivalent of the invention shown or portion thereof, but it is recognized that various modifications are possible within the scope of the invention claimed. Thus, it should be understood that although the present invention has been specifically disclosed by preferred embodiments and optional features, modifications and variations of the inventions embodied herein disclosed can be readily made by those skilled in the art, and that such modifications and variations are considered to be within the scope of the inventions disclosed herein.

From the description of the invention herein, it is manifest that various equivalents can be used to implement the concepts of the present invention without departing from its scope. Moreover, while the invention has been described with specific reference to certain embodiments, a person of ordinary skill in the art would recognize that changes can be made in form and detail without departing from the spirit and the scope of the invention. The described embodiments are considered in all respects as illustrative and not restrictive. It should also be understood that the invention is not limited to the particular embodiments described herein, but is capable of many equivalents, rearrangements, modifications, and substitutions without departing from the scope of the invention. Thus, additional embodiments are within the scope of the invention and within the following claims.

All U.S. patents and applications; foreign patents and applications; scientific articles; books; and publications mentioned herein are hereby incorporated by reference in their entirety as if each individual patent or publication was specifically and individually indicated to be incorporated by reference, including any drawings, figures and tables, as though set forth in full.

What is claimed is:

1. A process for producing a polypeptide in a host cell expressing said polypeptide, comprising culturing the host cell in a production phase of the culture in a glutamine-free production culture medium containing asparagine and aspartic acid, wherein the asparagine is added at a concentration in the range of 7.5 mM to 15 mM and wherein the aspartic acid is added at a concentration in the range of 1 mM to 10 mM.

2. The process of claim **1** further comprising the step of isolating said polypeptide.

3. The process of claim **2** further comprising determining one or more of cell viability, culture longevity, specific productivity and final recombinant protein titer following isolation.

4. The process of claim **3** wherein at least one of the cell viability, culture longevity, specific productivity and final recombinant protein titer is increased relative to the cell viability, culture longevity, specific productivity and final recombinant protein titer in a glutamine-containing production medium of the same composition.

5. The process of claim **1** wherein the asparagine is added at a concentration in the range of 7.5 mM to 10 mM.

6. The process of claim **1** wherein the asparagine is added at a concentration of 10 mM.

7. The process of claim **1** wherein the production medium is serum-free.

8. The process of claim **1** wherein the production culture medium comprises one or more ingredients selected from the group consisting of

1) an energy source;
2) essential amino acids;
3) vitamins;
4) free fatty acids; and
5) trace elements.

9. The process of claim **8** wherein the production culture medium additionally comprises one or more ingredients selected from the group consisting of:

1) hormones and other growth factors;
2) salts and buffers; and
3) nucleosides.

10. The process of claim **1** wherein the production phase is a batch or fed batch culture phase.

11. The process of claim **10**, wherein the production culture medium comprises one or more ingredients selected from the group consisting of

1) an energy source;
2) essential amino acids;
3) vitamins;
4) free fatty acids; and
5) trace elements.

12. The process of claim **11**, wherein the asparagine is added at a concentration in the range of 7.5 mM to 10 mM.

13. The process of **11**, wherein the asparagine is added at a concentration of 10 mM.

14. The process of claim **11**, wherein the aspartic acid is added at a concentration of 10 mM.

15. The process of claim **11**, wherein the production medium is serum-free.

16. The process of claim **10**, wherein the production culture medium additionally comprises one or more ingredients selected from the group consisting of:

1) hormones and other growth factors;
2) salts and buffers; and
3) nucleosides.

17. The process of claim **16**, wherein the asparagine is added at a concentration in the range of 7.5 mM to 10 mM.

18. The process of claim **16**, wherein the asparagine is added at a concentration of 10 mM.

19. The process of claim **16**, wherein the aspartic acid is added at a concentration of 10 mM.

20. The process of claim **16**, wherein the production medium is serum-free.